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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,393	11/19/2003	Eric Godard	245504US41XDIV	5495
22850	7590	11/04/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			LEE, BENJAMIN C	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/715,393	GODARD ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Benjamin C. Lee	2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-14 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☒ Certified copies of the priority documents have been received in Application No. 10/261,484.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/19/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 4-5 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ching et al. (US pat. #5,808,563) in view of Kelly et al. (US pat. #4,910,513).

- 1) In considering claims 1 and 11,

Ching et al. discloses a multiple parameter display system for an aircraft, comprising: means for determining a speed vector of the aircraft (means for providing the input to the speed vector 50 display according to Figs. 1 & 4) and a maneuver limit of the aircraft (as depicted by 51 of Fig. 4); and a display unit (31) connected to said determining means and including a display screen configured to display a first characteristic sign (50 of Fig. 4) illustrating said speed vector of the aircraft; while:

Kelly et al. discloses in a multiple parameter display system for an aircraft a means (Fig. 3) for determining a longitudinal margin of maneuver of the aircraft which margin is expressed as a load factor (col. 5, lines 57-68) and which relates to one of the two maneuvers of pitch-up and of pitch-down of the aircraft (Figs. 1-2; col. 4, lines 33-64; col. 5, lines 38-56; col. 7, line 67 to col. 8, line 1 regarding the pitch limiter symbol 40 being in relative position to the aircraft

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symbol 24 on the display), and depicting a corresponding characteristic sign (40) illustrating said longitudinal margin of maneuver on the display screen (Figs. 1-2).

In view of the teachings by Ching et al. and Kelly et al. which both teaches the display of multiple pilot aid parameters on the same display screen, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to illustrate the longitudinal margin of maneuver characteristic sign taught by Kelly et al. in the display screen of Ching et al. in order to provide the pilot with both speed vector against deviation limits information, as well as the longitudinal margin of maneuver associated with one of pitch-up and pitch-down maneuvers for enhanced aid to the pilot by virtue of the combined or added information presentation to the pilot for situational awareness and safe piloting of the aircraft, and to implement the determination means in the form of a central unit for centralized processing such as by using first and second determining units configured for determining the speed vector and longitudinal margin of maneuver, respectively.

2) In considering claim 2, Ching et al. and Kelly et al. made obvious all of the claimed subject matter as in claim 1, whereby:

Since Ching et al. teaches that aircraft displays can include a head-up display (Abstract and 4 of Fig. 1), it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the display in a system such as taught by Ching et al. and Kelly et al. in the form of a heads-up display screen.

3) In considering claim 4, Ching et al. and Kelly et al. made obvious all of the claimed subject matter as in claim 1, whereby:

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that the first characteristic sign (50 of Fig. 4 of Ching et al.) and second characteristic sign (40 of Fig. 1 of Kelly et al.) in a display system such as taught by Ching et al. and Kelley et al. can take on various similar physical shapes including a diamond and a chevron, respectively, to convey the same information to the user without unexpected results.

4) In considering claim 5, Ching et al. and Kelly et al. made obvious all of the claimed subject matter as in claim 1, whereby:

Even though only pitch-up is specifically discussed by Kelley et al., stall angle/speed occurs during both pitch-up and pitch down and therefore the disclosed invention inherently includes both pitch-up and pitch-down maneuvers and corresponding displays since the display symbols are generated in response to stall warning approach; also, the process of Fig. 3 generically encompass both pitch-up and pitch-down in that the margin may be positive or negative, corresponding to the pitch limiter symbol being above or below the aircraft symbol on the display according to Figs. 1-2; col. 4, lines 33-64; col. 5, lines 38-56; col. 7, line 67 to col. 8, line 1.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use dedicated first and second determining units in the central unit in a display system such as taught by Ching et al. and Kelly et al. to determine corresponding longitudinal margin of maneuvers related to pitch-up and pitch-down maneuvers, respectively, so that partial operation is possible even if a single determining unit fails to maintain some degree of safety.

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5) In considering claim 10, Ching et al. and Kelly et al. made obvious all of the claimed subject matter as in claim 1, except:

--specifying the claimed wherein the display unit displays the second characteristic sign only if the longitudinal margin of maneuver is less than a predetermined value.

However, it has long been recognized to reduce pilot information sensory overload and display information clutter by eliminating unnecessary display information until such information is required for safety and effectiveness of the display, and since the purpose of the longitudinal margin of maneuver (second) sign in a display system of Ching et al. and Kelly et al. was to provide visual feedback for the aircrew to control the aircraft near stall warning as well as other warnings, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to present said second characteristic sign on the screen in a system such as taught by Ching et al. and Kelly et al. only when near warning limits such as stall warning limits by determining if the longitudinal margin of maneuver is less than a predetermined value as a way to reduce pilot information sensory overload/display clutter and improve safety and display effectiveness.

### ***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 10/715,392. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are substantially the same, with the exception of obvious variations, such as the specifying of: the “chevron” and “diamond” display sign shapes, the determination means being in the form of “central unit” and “first and second determining units”, which are considered in the above rejection as obvious claimed limitations since they perform the same function and differ from the reference only nominally or in form.

This is a provisional obviousness-type double patenting rejection.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent Nos. 6169496, 5248968, 5912627, 6062513, 5127608, 5003305, 4924401, 4764872, 4590475, 5595357, 6169496, 6271769, 4457479, 6246929

--Similar calculation and/or indication of stall condition for aircraft.

US Patent No. 5978715

--A known aircraft parameter display using diamond and chevron shaped signs.

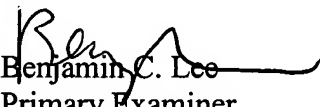
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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin C. Lee whose telephone number is (571) 272-2963.

The examiner can normally be reached on Mon -Fri 11:00Am-7:30Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Benjamin C. Lee  
Primary Examiner  
Art Unit 2632

B.L.  
10/29/04